



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,648	11/26/2003	Allan R. Wells	89190.070503/DP-308340	8779
22851	7590	02/27/2006	EXAMINER	
DELPHI TECHNOLOGIES, INC. M/C 480-410-202 PO BOX 5052 TROY, MI 48007				MARTIN, ANGELA J
		ART UNIT		PAPER NUMBER
		1745		

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/723,648	WELLS ET AL.	
	Examiner	Art Unit	
	Angela J. Martin	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 23 November 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-17 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

This Office Action is responsive to the Amendment filed on November 23, 2005. The Applicant has added new claims 14-17. However, this rejection is made final for the following reasons of record.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 11-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Franklin et al., U.S. Pat. Application Pub. 2004/0053099 A1.

Rejection of claims 1-3 drawn to a method of forming a fuel cell assembly; claims 11-17 drawn to a fuel cell assembly.

Franklin et al., teach a method of forming a fuel cell assembly comprising the steps of forming a plurality of fuel cell sub-assembly modules, each containing a plurality of bonded fuel cell units; and joining together the plurality of modules to form the fuel cell assembly (abstract). It teaches the forming step is followed by a step of testing each of the modules (sect. 0004). It teaches modules comprise a plurality of bipolar plate assemblies interspersed with a plurality of membrane electrode assembly

elements (sect. 0004). It teaches a plurality of fuel cell sub-assembly modules (claim 3). It teaches the modules are tested prior to inclusion in fuel cell assembly (sect. 0004). It teaches the modules are joined together by a gasketing element (sect. 0010) consisting of a curable liquid rubber material (claim 10). It teaches a fuel cell assembly comprising a plurality of fuel cells coupled together to form a plurality of modules, wherein the modules are coupled together to form the fuel cell assembly (sect. 0149). It teaches at least one fuel cell includes a bipolar plate assembly and membrane electrode assembly (sect. 0038; abstract). It teaches at least gasket and gasketing element positioned between each of the plurality of fuel cells (sect. 0004, 0010, abstract).

Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franklin et al., U.S. Pat. Application Pub. 2004/0053099 A1, in view of Stanley et al., U.S. Pat. Application Pub. 2004/0053100 A1, or Frank et al., U.S. Pat. Application Pub. 2005/0091838 A1, or Frisch et al., U.S. Pat. No. 6,761,991 B2.

Rejection of claims 4-9 drawn to a method of forming a fuel cell assembly; claim 10 drawn to a fuel cell assembly.

Franklin et al., teach a method of forming a fuel cell assembly as described in claim 4 including providing an alignment element (sect. 0084; Fig 9I), selecting the number of bipolar plate and membrane electrode assembly elements (depending on application of fuel cell) (sect. 0004), providing an elastomeric gasket (sect. 0010, 0160), providing a compressive force to the stack (sect. 0064).

Stanley et al., teach the gasketing element includes a curable liquid rubber material (sect. 0037).

Frank et al., teach curing the elastomeric gasket prior to the method (sect. 0092, 0148). It teaches including a liquid sealant during bipolar plate installation (sect. 0041). It teaches membrane electrode assembly includes gas diffusion layer (sect. 0004, 0089, 0109).

Frisch et al., teach an elastomeric gasket including a liquid sealant (col. 6, lines 30-35).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of or Stanley et al., or Frank et al., or Frisch et al., into the teachings of Franklin et al., because each of the secondary references teach a method of including a curable liquid rubber material for the gasket material which is advantageous to the life of the fuel cell. The prior art of record discloses that curing of a liquid sealant as the gasket helps "to prevent leakage of gases and liquids required for operation of the individual fuel cells" (Frisch et al.). In addition, the seal "is

robust and can accommodate variations in tolerances and dimensions, and...can be bonded, where possible, to individual elements of the fuel cell assembly. This avoids the difficulty, labor intensive cost and complexity of manually assembling many individual gaskets into complex groove shapes" (Frank et al.).

Response to Arguments

5. Applicant's arguments filed 11/23/05 have been fully considered but they are not persuasive. Applicant argues that Franklin et al., does not teach "a sub-assembly module containing a plurality of bonded together fuel cells." . However, although Franklin et al., does not use the same terminology as the Applicant to describe the "sub-assembly module", the prior art of record is disclosing a fuel cell assembly comprising modules and fuel cells, which are equivalent to the sub-assembly module.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJM


PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER